

Shiba discloses a method of manufacturing a color filter, including: (1) coating substrate 1, provided with the black matrices 2, on the entire surface with a resin composition by spin coating, roll coating, bar coating, spray coating or dip coating; (2) pattern-exposing portions of the resin layer which are shaded by the black matrices 2 through a photomask 4 to cure these portions of the resin layers, thereby forming sites 8 (non-colored portions) which do not absorb an ink; and (3) coloring the same layer in colors of R, G and B by the use of an ink-jet head. Thus, Shiba discloses a method of coloring the resin.

I. The Applied Art Does Not Disclose Depositing a Semiconducting Organic Material by Ink-Jet Printing

Claims 50 and 61, from which claims 51, 52, 55, 60, 62-64, 67, 69, 70, and 101 depend, recite "depositing a semiconducting organic material . . . by ink-jet printing. . . ." The Office Action alleges that Shiba discloses depositing a semiconducting organic material by ink-jet printing. Specifically, the Office Action relies on Shiba, at col. 3-4; col. 5, line 60 to col. 6, line 51; col. 8, lines 20-45; col. 35, example 72, and Figs. 1, 2 and 4, as disclosing the claimed deposition of a semiconducting organic material. Applicants respectfully assert that the Office Action has misinterpreted the disclosure of Shiba.

The Office Action states that "Shiba disclose forming a pattern on a substrate using a liquid crystal composition by ink jet printing." The Office Action goes on to state that "Shiba disclose polymer based materials as required by some of the present dependent claims," referring to columns 3 and 4 of Shiba. However, the polymer based materials recited in the pending dependent claims are for the semiconducting material that is ink-jetted, whereas the polymer based materials disclosed in columns 3 and 4 of Shiba relate to the Shiba resin layer which is not deposited by ink-jet printing.

Specifically, Shiba clearly discloses that resin layer 3, relied upon by the Office Action with respect to semiconducting organic material, is not formed by ink-jet printing.

See col. 6, lines 40-43. The resin layer 3 is designed to receive the ink-jetted ink. See col. 6, line 64 to col. 7, line 1. It appears that the Office Action has confused the disclosure of Shiba regarding how ink is deposited on top of resin layer 3 by ink-jet printing with how resin layer 3 itself is formed, not by ink-jet printing. Hirai fails to overcome this deficiency in Shiba.

II. The Applied References Do Not Disclose Forming a Pattern on a Substrate By Deposition of a Semiconducting Organic Material

As previously mentioned, Shiba coats the entire surface of the substrate 1 with a resin composition. This coating does not form a pattern and is not deposited by ink jetting. Rather, the entire surface is covered with the layer by spin coating, roll coating, bar coating, spray coating or dip coating.

Hirai fails to overcome this deficiency in Shiba. Hirai discloses a method dispersing liquid material in a fluoro-type polymer, the liquid material being disposed between first substrate 4 (pixel electrode 3) and the second substrate 4' (counter electrode 5). The liquid material is not patterned, as shown in Fig. 1(b) of the application and recited in the rejected claims, and an inkjet method is not used to form a resin layer in Hirai. Further, the fluoro-type polymer disclosed for the resin layer in Hirai is an insulator, not a semiconducting organic material as recited in the claims.

For at least the foregoing reasons, neither Shiba nor Hirai discloses, teaches or suggests a process for forming a pattern on a substrate by deposition of a semiconducting organic material by ink-jet printing, as recited in all of the rejected claims.

III. Conclusion

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 50, 51, 55, 60-64, 67, 69, 70 and 101 as being unpatentable over Shiba in view of Hirai be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 50-52, 55, 60-64, 67, 69, 70 and 101 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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